WEN WSC-1-2571
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3400 Forest Pest Management July 30, 1980

Biological Evaluation

Forest Supervisor, Wenatchee NF

On April 14-17, Greg Filip, Plant Pathologist of the Regional Office, visited the Wenatchee National Forest. Purpose of the visit was primarily to examine several project areas submitted for funding for dwarf mistletoe suppression. He was accompanied by Monty Bickford, Forest Silviculturist.

Leavenworth RD

Two areas were examined that were representative of several projects submitted for funding for dwarf mistletoe suppression.

Tip Top #3 (T., 23 N., R. 18 E., sec. 19), 7 acres, had several Douglas-fir residuals that were severely infected with dwarf mistletoe (*Arceuthobium douglasii*). Some of the firs bordering the unit were infected also. The understory was composed of planted 4-year-old Douglas-fir and ponderosa pine seedlings at about a 50-50 mix. Some natural regeneration of Douglas-fir probably occurred also. Very few of the planted Douglas-fir should be infected since trees were less than than 3 feet tall and 10 years old. Naturals older or larger than this may be infected, although none were observed. None of the ponderosa pine seedlings should be infected since they are immune to Douglas-fir dwarf mistletoe. All infected residuals, as well as large infected trees adjacent to the unit, should be removed or killed as soon as possible to prevent infection of the Douglas-fir regeneration. FPM has provided funds for treating Tip Top #3.

Camp 12 (T. 26 N., R. 18 E., sec. 31), 2 acres, is nearly identical to Tip Top #3 regarding tree species composition, size classes, and dwarf mistletoe. The same comments and recommendations apply. FPM has provided funds for treating Camp 12.

A third area was examined that was submitted for funding for dwarf mistletoe surveys. The Blag Mountain area (T. 24 N., R. 19 E., secs. 6 and 7), contained about 600 acres of mixed Douglas-fir and ponderosa pine with several acres of Douglas-fir with severe dwarf mistletoe infestations. Some of the firs were of commercial size. The District requested funds to survey this area to determine the exact location of dwarf mistletoe-infested areas and to determine whether these areas contain merchantable trees. Once located, such areas will be treated through regular timber sales.

FPM provided funds for the Blag Mountain Project in a 3450 letter dated April 28.

Chelan and Entiat RD's

One area on the Chelan RD was examined for possible funding for removal of dwarf mistletoe-infected Douglas-fir in thinning units.

In the Barrett Creek area (T. 27 N., R. 21 E., sec. 18), several acres of Douglas-fir had been precommercially thinned in the past. However, most of the residual trees were infected with dwarf mistletoe, some severely so, and some areas still were overstocked. Very little reproduction was observed. Trees without dwarf mistletoe or with good spacing were growing faster than infected trees or those with more competition. Funds were requested to fell the more severely infected trees to relieve competition and increase tree growth. FPM deferred funding this project until FY 1982 because of lack of money.

An area on the Entiat Ranger District was examined that had stands of dwarf mistletoe-infected residuals of Douglas-fir. Many sites in the Burnett Ridge area (T. 26 N., R. 19 E., sec. 26), severely burned in 1970, had overstories of infected Douglas-fir with naturally established Douglas-fir seedlings about 10 years old. In more dense stands, there was little or no reproduction. Infested stands with understories of Douglas-fir should have infected residual overstory trees removed or killed as soon as possible to prevent infection of the regeneration.

Lake Wenatchee RD

Several areas were examined that were submitted for funding for survey of dwarf mistletoe-infected pockets. Four units along Road 311, Lower Twin #148, 149, 150, and 121 (T. 28 N., R. 17 E.) were examined.

In general, all units, about 40 acres each, had uneven-aged stands composed of Douglas-fir, grand fir, ponderosa, lodgepole, and white pine. Many of the old-growth Douglas-fir and some lodgepole pine were infected with dwarf mistletoe. Some of the grand fir and Douglas-fir were infected and killed by *Phellinus weirii*, cause of laminated root rot, and *Armillaria mellea*, cause of Armillaria root rot. Attacks by the fir engraver, *Scolytus ventralis*, were also evident. In additions, much of the white pine was infected with white pine blister rust *(Cronartium ribicola)*. Funds were requested to survey each unit to locate pockets of dwarf mistletoe-infected trees. Such areas would be treated through regular timber sales.

Some of the units submitted for survey funding were located along Road 311 which has been designated as a visual corridor adjacent to the Chiwawa River. Units adjacent to or within this corridor will receive special management to retain aesthetic value (i.e., limited logging) unless units are threatened by serious pest problems requiring removal of affected trees.

Because of the serious infestations of dwarf mistletoe, root diseases, blister rust, and insect pests, and because of the aesthetic value of the corridor area, Greg Filip recommended that those units adjacent to or within the visual corridor be surveyed by FPM personnel to determine the total impact of all pest organisms in these stands. Such surveys will determine (1) total volume, basal area, and stocking by tree species, (2) extent and location of all pests, and (3) tree species and size classes affected by each pest. Units not adjacent to or within visual corridors could be surveyed by the District with FPM funding made available in FY 1982. FPM surveys could begin this summer and take about 2 weeks.

One area was examined that had dead and dying lodgepole pine. Trees were 30-40 years old and averaged 12 in. DBH. Upon closer examination of dead trees, mountain pine beetle attacks were evident by the numerous pitch tubes. Several trees were still green. Dead and green infested trees were examined for root diseases, particularly black stain root disease caused by *Ceratocystis wageneri*, but none was evident. Many of the trees in the stand did have numerous stem infections caused by western gall rust (*Endocronartium harknessii*). Gall rust infections occur more frequently on vigorously growing trees or where high humidities and cool temperatures exist during May and June, the period of sporulation. Effects of gall rust on infestations by mountain pine beetle are unknown.

If further assistance is needed, please contact FPM staff.

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